

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

1-18. (Canceled)

19. (Previously Presented) A proton exchange fuel cell, comprising:

a separator which comprises

a separator substrate; and

a multi-coating layer formed on said separator substrate;

wherein said multi-coating layer comprises a peeling resistance layer provided on said separator substrate, a corrosion resistance layer provided on said peeling resistance layer, and a low electric resistance layer provided on said corrosion resistance layer;

wherein a material of said low electric resistance layer has an electric resistance of equal to or lower than $1000 \mu \Omega \text{cm}^2$;

wherein said separator substrate comprises one kind or a composite material of two or more kinds of materials selected from the group consisting of stainless steel, copper, an alloy of copper, aluminum, an alloy of aluminum, titanium and an alloy of titanium;

wherein said multi-coating layer comprises one kind or a composite material of two or more kinds of materials having a low contact resistance selected from the group consisting of Ni, Fe, Co, B, Pb, Cr, Cu, Ti, Bi, Sn, W, P, Mo, Ag, Pt, Au, TiC, NbC, TiCN, TiN, CrN, TiB₂, ZrB₂, Fe₂B, and Si₃N₄;

wherein a film thickness of said low electric resistance layer is $0.02\ \mu\text{m}$ or more, a film thickness of said corrosion resistance layer is $0.1\ \mu\text{m}$ or more, and a film thickness of said peeling resistance layer is $0.1\ \mu\text{m}$ or more.

20. (Previously Presented) A proton exchange fuel cell, comprising:

a separator which comprises

a separator substrate; and

a multi-coating layer formed on said separator substrate;

wherein said multi-coating layer comprises a peeling resistance layer provided on said separator substrate, a corrosion resistance layer provided on said peeling resistance layer, and a low electric resistance layer provided on said corrosion resistance layer;

wherein a material of said low electric resistance layer has an electric resistance of equal to or lower than $1000\ \mu\ \Omega\text{cm}^2$;

wherein said separator substrate comprises one kind or a composite material of two or more kinds of materials selected from the group consisting of stainless steel, copper, an alloy of copper, aluminum, an alloy of aluminum, titanium and an alloy of titanium;

wherein said multi-coating layer comprises one kind or a composite material of two or more kinds of materials having a low contact resistance selected from the group consisting of Ni, Fe, Co, B, Pb, Cr, Cu, Ti, Bi, Sn, W, P, Mo, Ag, Pt, Au, TiC, NbC, TiCN, TiN, CrN, TiB₂, ZrB₂, Fe₂B, and Si₃N₄;

wherein a film thickness of said low electric resistance layer is $1.0\ \mu\text{m}$ or more, a film thickness of said corrosion resistance layer is $1.0\ \mu\text{m}$ or more, and a film thickness of said peeling resistance layer is $1.0\ \mu\text{m}$ or more.

BASIS FOR THE AMENDMENT

Claims 6-15 have been canceled.

No new matter is believed to have been added by entry of this amendment. Entry and favorable reconsideration are respectfully requested.

Upon entry of this amendment Claims 19-20 will now be active in this application.